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# Consolidation of the Aerospace and Defense Industries: The Effect of the Big Three Mergers in the United States Defense Industry

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# **CONSOLIDATION OF THE AEROSPACE AND DEFENSE INDUSTRIES: THE EFFECT OF THE BIG THREE MERGERS IN THE UNITED STATES DEFENSE INDUSTRY**

AMY J. BOATNER

## TABLE OF CONTENTS

I.	INTRODUCTION.....	914
II.	MERGER AND ACQUISITION ACTIVITY IN THE UNITED STATES .....	915
III.	THE DEFENSE INDUSTRY'S RECENT HISTORY.	918
IV.	THE BIG THREE MERGERS IN THE UNITED STATES .....	920
	A. BOEING-McDONNELL DOUGLAS .....	920
	B. RAYTHEON-HUGHES .....	922
	C. LOCKHEED MARTIN .....	923
	1. <i>The Proposed Lockheed Martin-Northrop         Grumman Merger</i> .....	924
	2. <i>The Result of the Failed Merger</i> .....	925
	a. The Future of Lockheed Martin .....	925
	b. The Future of Northrop Grumman ...	925
V.	THE FIGHT FOR THE LARGEST DEFENSE CONTRACT IN HISTORY.....	927
VI.	THE STRUGGLE TO CONSOLIDATE AEROSPACE AND DEFENSE INDUSTRIES IN THE EUROPEAN UNION .....	928
	A. HISTORY OF THE EUROPEAN INDUSTRIES.....	928
	B. RECENT DEVELOPMENTS, REMAINING HURDLES AND THE OVERALL GOAL FOR EUROPE'S NEAR FUTURE .....	929
VII.	THE MERGERS OF SECOND AND THIRD TIER COMPANIES AND DIVISIONS .....	935
VIII.	OTHER GLOBAL EFFECTS .....	936
	A. ASIA .....	936
	B. RUSSIA.....	936
	C. ISRAEL .....	936
	D. CHINA .....	937

E. TAIWAN .....	937
F. AUSTRALIA .....	939
G. TURKEY .....	940
IX. CONCLUSION.....	940

## I. INTRODUCTION

**D**URING THE past five years, the United States defense and commercial aerospace industries have experienced an unprecedented wave of mergers and acquisitions. More than two dozen major firms have merged into three giants: Boeing-McDonnell Douglas, Lockheed Martin, and Raytheon-Hughes.<sup>1</sup>

Boeing's recent \$14 billion merger with McDonnell Douglas and \$3.1 billion merger with Rockwell International's aerospace and defense unit resulted in a company with \$48 billion in annual sales and an estimated 225,000 employees.<sup>2</sup> Moreover, Raytheon is in the process of a \$2.95 billion merger with Texas Instruments and a \$9 billion merger with Hughes Aircraft; the product of the merger will be a company with annual revenues of \$17 billion.<sup>3</sup> Additionally, Lockheed Martin recently proposed an \$11.2 billion merger with Northrop Grumman, where the result would have been a company with \$37 billion in annual sales and 230,000 employees.<sup>4</sup> Although the merger was never realized, Lockheed Martin remains the number two company in the United States, with annual sales of \$28 billion.<sup>5</sup> The specifics of the failed merger are discussed *infra* Part II.

Although Boeing-McDonnell Douglas (worth \$48 billion in annual sales), Lockheed Martin (\$28 billion annual sales), and

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<sup>1</sup> See Vago Muradian, *Battle for UDLP Proves that Consolidation Trend is Continuing*, DEF. DAILY, Aug. 15, 1997, available in LEXIS, Legis Library, Dfdly File.

<sup>2</sup> See Andy Patrizio, *Mergers Pose IT Challenge*, INFO. WEEK, Sept. 22, 1997, at 105, available in 1997 WL 14148022; Carol Haber, *Defense Fireworks Light 4th*, ELEC. NEWS (1991), July 7, 1997, at 1.

<sup>3</sup> See Kevin O'Toole, *Aerospace Top 100: Only the Beginning*, FLIGHT INT'L, Aug. 20, 1997, available in LEXIS, Market Library, Prompt File; Bruce Balestier, *Billion-Dollar Deals; Consolidation, Strategic Planning Drive Activity*, N.Y. L.J., Aug. 14, 1997, at 5. At the time of publication, consolidation and streamlining of the two companies were under way.

<sup>4</sup> See Andy Dworkin, *Lockheed Martin to Buy Northrop Grumman*, DALLAS MORNING NEWS, July 4, 1997, at 1A, 34A. Some sources report that the value of the merger would have been as low as \$8.3 billion. See Teddie Weyr, *Lockheed Terminates Northrop Merger*, A.P. ONLINE, July 16, 1998, available in 1998 WL 6696370. Other sources report the merger price was \$10.7 billion. See *Shareholder's Suit Alleges Northrop Inflated Stock Price*, ORANGE COUNTY REG., July 25, 1998, at C2, available in 1998 WL 2639760 [hereinafter *Shareholder's Suit*].

<sup>5</sup> See Weyr, *supra* note 4.

Raytheon (\$17 billion annual sales) are the top three defense industry competitors, it is worth noting that Boeing and Lockheed are significantly larger than the nearest competitor, Raytheon.<sup>6</sup> The consolidation of the top American aerospace and defense companies "carried out under the watchful eye of the Pentagon, appears to be largely complete. The endgame . . . has[, however,] left only two fully capable platform manufacturers in Boeing and Lockheed Martin."<sup>7</sup>

But why has the aerospace industry declined from almost fifty independent competitors in 1985 to only three in 1999?<sup>8</sup> What has driven the merger wave, and what will be the competitive effect of such consolidation?

Part II of this article discusses recent merger and acquisition activities in the United States. Part III is a historical overview of demands within the defense industry leading up to the heavy merger and acquisition activity. Part IV discusses the Big Three Mergers, while Part V examines the fight between the Big Three for the largest defense contract in history. Part VI and VII highlight the international and local effects of the Big Three Mergers. Specifically, they discuss the mergers' effects on the European market and on all second and third-tier companies, respectively. Part VIII is a brief analysis of other global markets in the wake of the U.S. mergers.

## II. MERGER AND ACQUISITION ACTIVITY IN THE UNITED STATES

In recent years, mergers and acquisitions have taken a leading role in many corporate business strategies.<sup>9</sup> Companies, adhering to the philosophies of world-wide competition and economic efficiency, are spinning off unnecessary divisions and acquiring divisions that support their overall business plans.<sup>10</sup> To illustrate, in 1995 the total value of mergers in the United States involving U.S. companies was roughly \$458 billion,<sup>11</sup> but

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<sup>6</sup> See O'Toole, *supra* note 3.

<sup>7</sup> *Id.*

<sup>8</sup> See *Hearing on Defense Mergers Antitrust Implications Before the Subcomm. on Antitrust, Bus. Rights & Competition of the Senate Judiciary Comm.*, 105th Cong. (1997) (statement of Mike Dewine, Senator from Ohio).

<sup>9</sup> See Dennis J. Block et al., *Current Trends in the Market for Corporate Control*, 972 PLI/CORP 7, 11 (1997).

<sup>10</sup> See *id.*

<sup>11</sup> See *id.*

in 1994, mergers only totaled \$347.1 billion, which is a staggering \$110.9 billion increase in just one year.<sup>12</sup>

Globally speaking, the value of corporate mergers in 1994 was at an all time high of \$572 billion.<sup>13</sup> This record was crushed in 1995 when corporate mergers increased fifty-one percent and totaled roughly \$866 billion.<sup>14</sup> Moreover, in 1996, corporations announced deals totaling an even more impressive \$1.14 trillion.<sup>15</sup> The telecommunications and defense industries and the mega-mergers occurring within them helped push the total to this astonishing amount.

Acquisitions made overseas by U.S. companies rose substantially from \$31.4 billion in 1994 to \$53 billion in 1995.<sup>16</sup> Additionally, foreign purchases of American companies increased from \$44 billion in 1994 to \$50.2 billion in 1995.<sup>17</sup>

In fact, there were 10,300 domestic deals officially announced in 1996, which makes it the most active year in merger and acquisition history.<sup>18</sup> Coupled with a strong market and perceived low inflation, the merger and acquisition activity hit records — surpassing the 1995 record of only 9030 deals worth \$522 billion.<sup>19</sup>

Factors influencing those “trends in the market for corporate control” included “(i) the strength of the national economy; (ii) the level of the stock market; (iii) the availability of acquisition financing; and (iv) legislation and agency action that has or will lead to deregulation in certain industries.”<sup>20</sup>

Because the aforementioned factors sparked the drive for corporate control, two characteristics are particularly apparent in today’s market.

First, there “is a substantial increase in the number and value of *strategic* transactions,” which is “where a company acquires or merges with another . . . or divests itself of a subsidiary . . . in order to further long-term strategic purposes.”<sup>21</sup> The pur-

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<sup>12</sup> See *id.*

<sup>13</sup> See *id.*

<sup>14</sup> See *id.*

<sup>15</sup> See Louis S. Freeman, *General Overview and Strategies in Representing Sellers*, 403 PLI/TAX 7, 15 (1997).

<sup>16</sup> See Block, *supra* note 9, at 12.

<sup>17</sup> See *id.*

<sup>18</sup> See Freeman, *supra* note 15, at 15.

<sup>19</sup> See *id.* at 15-16.

<sup>20</sup> See Block, *supra* note 9, at 12.

<sup>21</sup> *Id.*

chaser, in these transactions, sees the target as a business whose "operations would strategically supplement or complement [its] existing operations."<sup>22</sup> Therefore, the company to be acquired is either in the same industry as the purchaser or "is in a business that would allow the acquirer to integrate vertically with the target and gain long-term benefits."<sup>23</sup> A strategic divestment, on the other hand, occurs when a corporation gets rid of a subsidiary or the like that does not supplement or complement its long-term goals or business philosophies.<sup>24</sup>

Second, the number of financial transactions continues to be small. A financial acquisition results when an investor acquires an undervalued company in order to use the company's cash reserves or assets.<sup>25</sup> In a financial acquisition, the target and its purchaser may not even be in the same industry, much less benefit each other.<sup>26</sup>

In the market for corporate control, there is a trend toward long-term strategic transactions and away from mere financial acquisitions.<sup>27</sup> Strategic deals are usually negotiated transactions, and they take longer to close and have a higher rate of failure than the pure financial transaction.<sup>28</sup>

Aside from the increase in strategic transactions, there is an increase in the number of "mega-size" deals.<sup>29</sup> There were seventy-five merger and acquisitions (M&A) in 1995 that individually totaled \$1 billion or more, and they collectively totaled \$199.1 billion.<sup>30</sup> These seventy-five M&A deals were 51.3% of the total value of deals throughout 1995.<sup>31</sup> Only forty-seven "mega-size" deals valuing \$135.4 billion occurred in 1994.<sup>32</sup>

Interestingly, it is the nation's two hundred largest industrial corporations that led the wave of mega-mergers.<sup>33</sup> "They not only have bought 'small' and 'medium-sized' corporations, but

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<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

<sup>24</sup> *See id.*

<sup>25</sup> *See id.* at 12-13

<sup>26</sup> *See id.* at 13.

<sup>27</sup> *See id.*

<sup>28</sup> *See id.*

<sup>29</sup> *See id.* at 36.

<sup>30</sup> *See id.*

<sup>31</sup> *See id.*

<sup>32</sup> *See id.*

<sup>33</sup> *See* Walter Adams & James W. Brock, *The 'New Learning' and the Euthanasia of Antitrust*, 74 CAL. L. REV. 1515, 1541 (1986).

— increasingly— they have merged with one another.”<sup>34</sup> Mergers of this magnitude are occurring in the aerospace and defense industries and are having a tremendous world-wide impact.

### III. THE DEFENSE INDUSTRY'S RECENT HISTORY

After the Cold War, defense budgets and expenditures for military procurement diminished, which ultimately caused a decrease in the number of weapons programs.<sup>35</sup> The total U.S. defense budget declined 35.4% from \$390 billion (in FY-97 dollars) in 1985 to \$252 billion in 1997.<sup>36</sup> More importantly, however, it is the procurement budget that suffered from these massive cuts. It has fallen sixty-five percent from \$125 billion (in FY-97 dollars) in 1985 to about \$44 billion in 1997.<sup>37</sup> “A decline in demand of this magnitude, which occurred in an industry that had invested heavily in plants and infrastructure in the early 1980’s based on expectations of continued growth in the demand for weapons and military systems, led quickly to overcapacity among defense contractors.”<sup>38</sup> As a result, such overcapacity led to increased overhead for military programs.<sup>39</sup> The defense industry thus “responded by reducing capacity through consolidation, which has resulted in a significant decline in the number of defense contractors.”<sup>40</sup>

The 1995 \$10 billion merger of the then top two and three defense contractors, Lockheed Corporation and Martin Marietta, led up to the Big Three Mergers in the U.S. aerospace and defense industries.<sup>41</sup> This merger followed the \$2.17 billion merger of Grumman Corporation and Northrop Corporation in 1994.<sup>42</sup>

The Lockheed Martin merger is an example of a defense merger entered into under a consent agreement with the Fed-

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<sup>34</sup> *Id.*

<sup>35</sup> See Prepared Statement of Robert Pitofsky Before the Subcomm. on Antitrust, Bus. Rights and Competition of the Senate Judiciary Comm., 105th Cong. (1997) (statement of Robert Pitofsky, Chairman, Federal Trade Commission).

<sup>36</sup> See *id.* at II.

<sup>37</sup> See *id.*

<sup>38</sup> *Id.*

<sup>39</sup> See *id.*

<sup>40</sup> *Id.*

<sup>41</sup> See *Martin Marietta-Lockheed Merger is Approved*, N.Y. TIMES, Mar. 16, 1995 at D4.

<sup>42</sup> See Roy J. Harris, Jr., *Northrop Offer of \$2.17 Billion Wins Grumman*, WALL ST. J., Apr. 5, 1994, at A3, available in 1994 WL-WSJ 298095.

eral Trade Commission (Commission) to remedy antitrust concerns. The antitrust problem existed in "the market for Space-Based InfraRed Early Warning (SBIR) Satellite Systems, a \$22 billion satellite system that uses highly sophisticated electro[ ]optical sensors to detect hostile missile launches against the United States or its allies."<sup>43</sup> Lockheed, which teamed with Hughes, and Martin Marietta, which teamed with Northrop Grumman, were the top two teams competing for the SBIR contract. As part of the Commission's consent order, Lockheed and Martin Marietta were prohibited from enforcing their teaming agreements with their respective partner. Thus, new teams were created to fight Lockheed Martin for the contract.<sup>44</sup>

Other mergers creating the merger wave included Martin Marietta's \$208.5 million acquisition of General Dynamic's space systems division<sup>45</sup> and its \$3.05 billion purchase of General Electric's aerospace division.<sup>46</sup> Lockheed also purchased General Dynamic's Tactical Military Aircraft operation for \$1.52 billion,<sup>47</sup> while Hughes Aircraft Co. bought General Dynamic Corp.'s missiles division for \$450 million.<sup>48</sup> The Carlyle Group, for \$200 million, acquired Textron's aerostructures business.<sup>49</sup> Loral Corp., Carlyle Group and Northrop Corp. separately purchased LTV's missiles and aircraft divisions for \$476 million.<sup>50</sup> The Carlyle Group also purchased General Dynamic's electronics division for \$60 million and later sold it to Tracor for \$110 million.<sup>51</sup> Carlyle, in the same year, purchased Vought from LTV, "strengthened it, and sold it to Northrop Grumman

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<sup>43</sup> Pitofsky, *supra* note 35, at V.

<sup>44</sup> *See id.*

<sup>45</sup> *See Martin Marietta Corp.: Acquisition is Completed of General Dynamics Unit*, WALL ST. J., May 3, 1994, at B4, available in 1994 WL-WSJ 294634.

<sup>46</sup> *See Division Won't Attack Martin Marietta Deal*, 64 ANTITRUST & TRADE REG. REP. (BNA) No. 1609, at 397 (Apr. 8, 1993); *see also* Alexander Nicoll, *Pentagon Changes Defence Game*, FINANCIAL POST (Bloomberg), Mar. 31, 1998, available in 1998 WL 10757577.

<sup>47</sup> *See Lockheed's Purchase of General Dynamics' Fighter Unit is Closed*, WALL ST. J., Mar. 2, 1993, at A12, available in 1993 WL-WSJ 711130.

<sup>48</sup> *See Steven Pearlstein, General Dynamics to Sell Unit; Hughes Expands Missile Business with Purchase*, WASH. POST, May 12, 1992, at C1, available in 1992 WL 2188510.

<sup>49</sup> *See* Muradian, *supra* note 1.

<sup>50</sup> *See* Frederick Rose, *Loral, Northrop, Carlyle Complete LTV Acquisitions*, WALL ST. J., Sept. 1, 1992, at A6, available in 1992 WL-WSJ 638419.

<sup>51</sup> *See* Muradian, *supra* note 1; *Carlyle Group: Firm Completes Purchase of General Dynamics Unit*, WALL ST. J., Nov. 24, 1992, available in 1992 WL-WSJ 626377.



for a \$100 million profit.”<sup>52</sup> Olin Corp. purchased Aerojet,<sup>53</sup> and Loral purchased IBM’s Federal Systems Co.<sup>54</sup> and Ford Motor Co.’s aerospace division.<sup>55</sup> In short, the aerospace and defense industries have never seen such a high level of mergers and acquisitions.

The effect of the aforementioned wave of mergers and acquisitions is that big corporations have become even larger and stronger, and the population of defense industry competitors has diminished drastically.

#### IV. THE BIG THREE MERGERS IN THE UNITED STATES

“The worldwide airline industry employs over 21 million people and accounts for [at least] \$740 billion or 4% of the world’s economic production.”<sup>56</sup> Thus, mergers that are of the magnitude of the Boeing-McDonnell Douglas, the Raytheon-Hughes, and the proposed Lockheed Martin-Northrop Grumman mergers naturally must withstand scrutiny from the U.S. Government. However, the market for large commercial aircraft is world-wide, and the European Union, with a similar competitive structure, is an integral part of this world market. While European airlines will potentially make-up almost one-third of purchasers over the next ten years, the combined market share of Boeing-McDonnell Douglas is about two-thirds of the European Union market.<sup>57</sup> Thus, the United States and the European Union share concerns over anticompetitive mergers in the aerospace industry. As a result, both the U.S. Government and the European Commission must approve mergers of this magnitude.

##### A. BOEING-McDONNELL DOUGLAS

“[F]ollowing one of the most detailed and wide-ranging investigations in the history of merger enforcement,” the Federal Trade Commission did not challenge Boeing’s acquisition of

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<sup>52</sup> Muradian, *supra* note 1.

<sup>53</sup> See *GenCorp Completes Sale of Line*, WALL ST. J., May 3, 1994, at C13, available in 1994 WL-WSJ 294597.

<sup>54</sup> See *Loral Corp.: IBM’s Federal System Unit Is Bought for \$1.52 Billion*, WALL ST. J., Mar. 2, 1994, at B4, available in 1994 WL-WSJ 302921.

<sup>55</sup> See Charles W. Stevens & Rick Wartzman, *Loral Wins Bid to Buy Ford’s Aerospace Unit*, WALL ST. J., July 24, 1990, at A3, available in 1990 WL-WSJ 568507.

<sup>56</sup> James C. Lanik, *Stopping the Tailspin: Use of Oligopolistic and Oligopsonistic Power to Produce Profits in the Airline Industry*, 22 TRANSP. L.J. 509, 510 (1995).

<sup>57</sup> See *The Commission Clears the Merger Between Boeing and McDonnell Douglas Under Conditions and Obligations*, RAPID, July 30, 1997 available in LEXIS, Eurcom Library, Rapid File [hereinafter *Commission*].

McDonnell Douglas.<sup>58</sup> The Commission concluded that "the acquisition would not substantially lessen competition or tend to create a monopoly in the global commercial aircraft market."<sup>59</sup> On the military side, the Commission found that "Boeing and McDonnell Douglas currently develop fighter aircraft and military helicopters for different missions, and there are no anticipated Defense Department procurements of fighter aircraft or military helicopters or other domestic military markets in which the two firms would likely compete."<sup>60</sup>

The result of the \$14 billion merger between the world's largest civilian aircraft company and one of the biggest U.S. military contractors was the world's largest aerospace and defense company.<sup>61</sup> At the time, Boeing dominated the large commercial aircraft market with sixty-four percent of the market share.<sup>62</sup> Additionally, McDonnell Douglas was "the world's number two defense manufacturer and leading manufacturer of military aircraft."<sup>63</sup>

For 1997, Boeing reported its first yearly loss in fifty years.<sup>64</sup> Boeing's pretax charge against fourth quarter earnings for the merger was slightly more than expected at \$1.4 billion.<sup>65</sup> After taxes, the charge for McDonnell Douglas was about \$0.91 per share.<sup>66</sup> In addition to competing for the joint strike fighter contract, discussed *infra* Part VI, Boeing planned to start the new 737 production line at the Douglas factory in Long Beach, California.<sup>67</sup> Boeing-McDonnell Douglas is also in the process of consolidating its own commercial, space, and defense facilities.<sup>68</sup>

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<sup>58</sup> Pitofsky, *supra* note 35, at V.

<sup>59</sup> *Id.*

<sup>60</sup> *Id.*

<sup>61</sup> See Stanley Holmes, *European Restructuring Urged to Compete with Boeing*, SEATTLE TIMES, June 17, 1997, at E1, available in 1997 WL 3239040.

<sup>62</sup> See Commission, *supra* note 57.

<sup>63</sup> *Id.*

<sup>64</sup> See Laurence Zuckerman, *\$1.4 Billion Boeing Charge to Force First Yearly Loss Since '47*, N.Y. TIMES, Jan. 22, 1998, at D5.

<sup>65</sup> See *id.*

<sup>66</sup> See *id.*

<sup>67</sup> See *State Battles for Jet Fighter; Boeing May Choose Facility in St. Louis*, L.A. DAILY NEWS, Aug. 10, 1998, at N3, available in 1998 WL 3866480 [hereinafter *State Battles*].

<sup>68</sup> See James Wallace et al., *Boeing Would Pick St. Louis for Fighter Assembly, Report Says Project Would be World's Biggest Defense Program, Lockheed Also Seeks Contract*, ST. LOUIS POST-DISPATCH, Aug. 10, 1998, at A1, available in 1998 WL 3347112.

Currently, "Boeing builds the F-15 Eagle, the F-18 Hornet, and the F-18 Super Hornet. . . , as well as the T-45 Goshawk jet trainer and the re-manufactured Harrier II Plus for the Marine Corps."<sup>69</sup> The Navy could purchase 548 of the new F-18 Super Hornets.<sup>70</sup>

### B. RAYTHEON-HUGHES

The Justice Department decided on July 2, 1997, to approve Raytheon's merger with Texas Instruments "on the condition that Raytheon [sell Texas Instrument's] defense radar microchip-making unit."<sup>71</sup> This division of Texas Instruments produced leading edge, "high-power[ed] amplifier monolithic microwave integrated circuits (MMICs)"<sup>72</sup> chips that "extend the power and range of radars, enabling them to scan airspace quickly and efficiently with a lower probability of detection" by enemies.<sup>73</sup> MMIC products are distinct from other products because they are made with gallium arsenide, a substance that is harder and faster than the silicon used in other circuits.<sup>74</sup>

"Raytheon [was] required to sell TI's MMIC business within 180 days, or within five days from the time the court approve[d] the settlement, to a firm 'having both the capability and intent to continue to develop, make and sell MMICs that meet [Department of Defense] requirements.'"<sup>75</sup> Without this condition, the price of advanced military radars would have increased dramatically.<sup>76</sup> These high prices would have impacted taxpayers as well as the DOD.<sup>77</sup>

The Raytheon-Hughes merger also underwent "intense scrutiny in the air-to-air missile arena."<sup>78</sup> In addition, Lockheed Martin is scaling back infrared units, which means Raytheon-Hughes could potentially corner the infrared defense market.<sup>79</sup> The merger was nevertheless approved.

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<sup>69</sup> *Id.*

<sup>70</sup> *See id.*

<sup>71</sup> *Mergers and Acquisitions: News in Brief*, FACTS ON FILE WORLD NEWS DIG., Sept. 4, 1997, at A1.

<sup>72</sup> *Id.*

<sup>73</sup> Anthony L. Velocci, Jr., *Raytheon, Rivals Score with TI Compromise*, AVIATION WK. & SPACE TECH., July 7, 1997, at 45.

<sup>74</sup> Haber, *supra* note 2, at 1

<sup>75</sup> *Id.*

<sup>76</sup> *See id.*

<sup>77</sup> *See id.*

<sup>78</sup> *Id.*

<sup>79</sup> *See Infrared Reductions*, AEROSPACE DAILY, Aug. 11, 1997, at 220.

Interestingly, the Ballistic Missile Defense Organization (BMDO) was recently seeking a Lead System Integrator to develop the National Missile Defense (NMD) system. Boeing with Hughes and the United Missile Defense Co. (UMDC) (which is a partnership between Lockheed Martin, Raytheon, and TRW) separately contracted to study the NMD system before the Raytheon-Hughes merger was realized.<sup>80</sup>

Although both Raytheon and Hughes were studying the effort, the Pentagon ultimately awarded Boeing the \$1.6 billion contract to oversee the National Missile Defense program. "The contract includes options for up to seven years of continued development effort. It is potentially worth \$5.2 billion" for Boeing.<sup>81</sup>

After the Raytheon-Hughes merger, Raytheon planned to cut at least "8000 jobs and take a pretax charge of as much as \$400 million [in order] to wring costs from the \$12.5 billion in defense acquisitions made [in 1997]."<sup>82</sup>

### C. LOCKHEED MARTIN

"Lockheed Martin is a highly diversified [corporation] principally engaged in the research, design, development, manufacture and integration of advanced-technology products and services. [Its] core businesses span aeronautics, electronics, energy and environment, information and services, space and strategic missiles, telecommunications and systems integration."<sup>83</sup>

In 1994, Northrop Corporation and Grumman Corporation merged to form Northrop Grumman. Lockheed Corporation and Martin Marietta merged in 1995, creating Lockheed Martin. In 1997, Lockheed Martin planned to merge with Northrop Grumman, thereby creating what would have been the second largest aerospace and defense company in the world. The two companies entered into a definitive agreement in order to "fur-

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<sup>80</sup> See *Defense Brief*, DEF. DAILY, Aug. 15, 1997, available in 1997 WL 8106993; see also *Boeing Wins \$1.6 Billion NMD Contract*, DEF. DAILY, May 1, 1998, available in 1998 WL 7193867 [hereinafter *Boeing Wins*].

<sup>81</sup> *Id.*

<sup>82</sup> *Raytheon is Expected to Cut at Least 8,000 Jobs*, ORLANDO SENTINEL, Jan. 22, 1998, at B5; *Raytheon May Cut Deeply*, PITTSBURGH POST-GAZETTE, Jan. 22, 1998, at C1.

<sup>83</sup> *Lockheed Martin and CSOC Partners Demonstrate Model Architecture For Future Space Operations*, PR NEWswire, Jan. 21, 1998, available in LEXIS, Market Library, lacnws File.

ther enhance efficiencies and increase global competition.”<sup>84</sup> The product of the merger would have been a corporation that was originally “more than 20 once-independent companies.”<sup>85</sup> The merger, however, was never realized.

### 1. *The Proposed Lockheed Martin-Northrop Grumman Merger*

The proposed merger was valued at roughly \$11.2 billion, and the merger would have produced a company with \$37 billion in annual sales, a close second to Boeing-McDonnell Douglas.<sup>86</sup> The proposed larger company “would have combined what [was] five independent companies just three years ago, and would have solidified Lockheed Martin’s position as the nation’s largest defense contractor,” accounting for twenty-five percent of the Pentagon’s budget.<sup>87</sup>

The companies’ product lines were to compliment each other in that Northrop Grumman offered a large commercial airplane components division and expertise in stealth technology, two divisions Lockheed Martin had not yet delved into.<sup>88</sup> Both companies build weapons and warfare systems for jets, and the bigger Lockheed Martin would “have cornered the market in some types of electronic warplane systems.”<sup>89</sup>

Furthermore, “Northrop Grumman . . . joined Lockheed Martin’s bid to develop and build the Joint Strike Fighter, a next generation warplane,” in direct competition with Boeing for the \$200 billion contract, which will ultimately be awarded in 2001.<sup>90</sup> Unfortunately, however, the U.S. Government threatened to sue the two companies based on antitrust concerns. This proposed merger is the largest challenged by the U.S. Government.<sup>91</sup> The government claimed that the two companies, if joined, would hinder efficient competition in the electronics and missile warning systems areas.<sup>92</sup>

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<sup>84</sup> *Northrop Grumman Reports Record 1997 Sales, Earnings; Operating Profit Exceeds \$1 Billion; Net Debt Reduced by \$510 Million*, PR NEWswire, Jan. 21, 1998, available in LEXIS, Market Library, Iacnws File.

<sup>85</sup> Dworkin, *supra* note 4, at 34A.

<sup>86</sup> *See id.* at A1. Not all sources agree on the value of the merger. *See* Weyr, *supra* note 4 (anticipating \$8.3 billion); *Shareholder’s Suit*, *supra* note 4, at C2 (anticipating \$10.7 billion).

<sup>87</sup> Weyr, *supra* note 4.

<sup>88</sup> *See* Dworkin, *supra* note 4, at 34A.

<sup>89</sup> *Id.*

<sup>90</sup> *Id.*; *see infra* notes 111-23, and accompanying text.

<sup>91</sup> *See* Weyr, *supra* note 4.

<sup>92</sup> *See id.*

Attorney General Janet Reno claimed that if the merger were to go through, "America could face higher prices and lower quality in advanced tactical and strategic aircraft, airborne early warning radar systems, sonar system, and several types of countermeasure systems that save our pilots from being shot down when they are flying in hostile skies."<sup>93</sup> Her stated goal was to protect soldiers' lives and taxpayers' wallets.<sup>94</sup>

## 2. *The Result of the Failed Merger*

Because the proposed merger failed, Lockheed Martin and Northrop Grumman must develop new strategies to survive in such a competitive market.

### a. The Future of Lockheed Martin

Lockheed Martin, based in Bethesda, Maryland, remains a world-wide corporation competing in five sectors with a total of sixty business units.<sup>95</sup> It has 173,000 employees and had \$28 billion in sales in 1997.<sup>96</sup> The company produces F-16 fighters in Fort Worth, Texas, and will remain a heavy hitter in the aerospace and defense industry.<sup>97</sup>

### b. The Future of Northrop Grumman

Kent Kresa, Northrop Grumman President and Chief Executive Officer, stated that although the merger was in the best interests of its constituencies, Northrop Grumman "will continue as a strong, independent competitor in the aerospace marketplace."<sup>98</sup>

Northrop Grumman, headquartered in Los Angeles, California, currently makes B-2 stealth bombers and the MX missile.<sup>99</sup> Moreover, as the sixth largest U.S. defense contractor, it had \$9 billion in revenue in 1998<sup>100</sup> and 52,000 employees.<sup>101</sup>

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<sup>93</sup> *Id.*

<sup>94</sup> *See id.*

<sup>95</sup> *See* Patrizio, *supra* note 2, at 105.

<sup>96</sup> *See* Weyr, *supra* note 4.

<sup>97</sup> *See* Wallace, *supra* note 68, at A1; *Boeing Would Build Fighter in St. Louis*, DALLAS MORNING NEWS, Aug. 10, 1998, at 2D, available in 1998 WL 13093719.

<sup>98</sup> Weyr, *supra* note 4.

<sup>99</sup> *See id.*

<sup>100</sup> *See* Anthony L. Velocci, Jr., *Dashed Merger Resets Clock for Acquisitive Defense Rivals*, AVIATION WK. & SPACE TECH., July 27, 1998, at 23, available in 1998 WL 8144859.

<sup>101</sup> *See* Weyr, *supra* note 4.

One of Northrop Grumman's advantages is that it is not constrained by the acquisition limitations placed on the larger companies. Hence, the company can grow in multiple directions. For example, Northrop is looking into nonmilitary markets such as information technology and commercial aerostructures.<sup>102</sup> Additionally, the company is "interested in expanding its defense electronics franchise, which . . . has the greatest growth potential."<sup>103</sup>

Northrop Grumman primarily serves the following markets: "airborne surveillance, airborne radar, countermeasures, military subcontracts, and commercial aerostructures."<sup>104</sup> Furthermore, its revenues in these areas are comparable to (if not greater than) those of its competitors.<sup>105</sup>

Many analysts believe that, in this industry, size matters and that Northrop must increase its overall size if it is to successfully compete with Raytheon and Lockheed Martin.<sup>106</sup> But the possibility remains "that Northrop Grumman . . . could find itself the target of another deep-pocketed suitor."<sup>107</sup> Even so, the company should take the time necessary to assess what is in its shareholders' best interest and what makes the most business sense.

It is worth noting that in 1997 Northrop Grumman was valued at \$8.3 billion, and in 1998, it was worth only \$5.2 billion, a \$3.1 billion loss in value.<sup>108</sup> With its stock worth less daily, Northrop Grumman may not be able to achieve the type of deals it needs.<sup>109</sup>

Interestingly, Daimler-Benz of Germany, General Electric Company of Britain, and British Aerospace are all interested in acquiring part or all of Northrop Grumman.<sup>110</sup>

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<sup>102</sup> See Velocci, *supra* note 99, at 23.

<sup>103</sup> *Id.*

<sup>104</sup> *Id.*

<sup>105</sup> See *id.*

<sup>106</sup> See *id.*

<sup>107</sup> *Id.*

<sup>108</sup> See Vago Muradian, *Stock Price Drop Blamed on Failed Lockheed-Northrop Deal*, DEF. DAILY, Aug. 6, 1998, available in 1998 WL 7194592.

<sup>109</sup> See *id.*

<sup>110</sup> See Barry James, *By Mergers and Deals, Defense Industry Spins a Worldwide Web*, INT'L HERALD TRIBUNE, July 27, 1998, at 11, available in 1998 WL 4793194.

## V. THE FIGHT FOR THE LARGEST DEFENSE CONTRACT IN HISTORY

The largest contract in military history will be awarded in Spring 2001. The contract is to build the joint strike fighter, the next generation warplane. It is potentially worth \$750 billion and could be a twenty to twenty-five year commitment.<sup>111</sup> The contract "could create 20,000 new aerospace jobs . . . and for every aerospace job, it could create five to nine spin-off jobs."<sup>112</sup> Boeing and Lockheed are the finalists vying for the contract.

The joint strike fighter is "[i]ntended to serve the Air Force, Navy, Marine Corps and British Royal Navy . . . [and] will be the first fighter required to perform . . . multiservice roles."<sup>113</sup> Specifically, "[t]he Navy wants a fighter that can land and take off from an aircraft carrier. [In addition, t]he Marines and Royal Navy want a fighter that can replace Harrier jets, which are capable of short takeoff and vertical landing."<sup>114</sup> The fighter must also be capable of avoiding air and ground radar detection, which means it must be stealthy.<sup>115</sup>

The U.S. Department of Defense could purchase almost 3000 of the fighters by 2020 at \$219 billion.<sup>116</sup> Military experts estimate that the joint strike fighter program has the potential to be valued at \$300 billion.<sup>117</sup>

Boeing and Lockheed are in the process of building prototypes, which will be completed by late 1999 or early 2000. Each company will build two demonstration fighters that will compete against the other company's two fighters. "[F]light testing will be [conducted] at Edwards Air Force Base and later at the Navy's Patuxent River test facility in Maryland."<sup>118</sup> If Boeing wins the contract, the fighter could be produced in St. Louis, Missouri; whereas, if Lockheed obtains the contract, the fighter could be produced in Fort Worth, Texas.<sup>119</sup> Because companies are known to change their minds regarding production sites, neither location is definite.

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<sup>111</sup> See *State Battles*, *supra* note 67, at N3.

<sup>112</sup> *Id.*

<sup>113</sup> *Id.*

<sup>114</sup> *Id.*

<sup>115</sup> See *id.*

<sup>116</sup> See *id.*; Wallace, *supra* note 68, at A1.

<sup>117</sup> See Wallace, *supra* note 68, at A1.

<sup>118</sup> *State Battles*, *supra* note 67, at N3.

<sup>119</sup> See *id.*



The Pentagon is supposedly trying to determine who can build "the best airplane at the cheapest price."<sup>120</sup> There are, however, multiple factors that enter the equation. For example, some states will offer tax benefits for equipment purchased specifically for the joint strike fighter program, thereby decreasing the bottom line cost of production.<sup>121</sup> In addition, there are always political forces that will try to bring a contract of this magnitude to its home state. For example, if Boeing gets the Joint Strike Fighter contract, they will probably produce the two largest fighter projects in the country in St. Louis, Missouri.<sup>122</sup>

In fact, this contract is so vital to the U.S. defense industry that some experts anticipate that there will not be just one winner. These experts anticipate that both Boeing and Lockheed Martin will share the contract.<sup>123</sup>

## VI. THE STRUGGLE TO CONSOLIDATE AEROSPACE AND DEFENSE INDUSTRIES IN THE EUROPEAN UNION

Due to the mega-merger wave in the aerospace and defense industries in the United States, the world is entering a new aerospace era with the international goal of consolidation; however, it is only beginning.

### A. HISTORY OF THE EUROPEAN INDUSTRIES

While Boeing has at least sixty percent of the world's commercial aircraft business, Europe has over thirty percent.<sup>124</sup> In fact, "Europe's three biggest players, Aerospatiale, British Aerospace and Daimler-Benz Aerospace, cannot [collectively make] the same sales as Boeing-[McDonnell Douglas],"<sup>125</sup> and corporations must make a move if they are to survive in such a competitive market.

Europe actually does have the potential to consolidate and compete with the big players in the United States. Currently in Europe, there are at least thirty-two companies producing air-

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<sup>120</sup> *Id.*

<sup>121</sup> *See id.*

<sup>122</sup> *See* Wallace, *supra* note 68, at A1.

<sup>123</sup> *See id.*

<sup>124</sup> *See* Holmes, *supra* note 61, at E1.

<sup>125</sup> O'Toole, *supra* note 3.

craft, helicopters, missiles, defense electronics and/or satellites.<sup>126</sup>

It is worth noting that the U.S. Government heavily invests in aerospace research and development. The U.S. budget for military procurement, including research, amounts to twice the support provided by the European Union Member States combined.<sup>127</sup> In addition, the support for the research for large civil aircraft in the United States is around four times the support provided by the European Union and its Member States combined.<sup>128</sup>

Europe must concentrate on the world, defense-related market that overall has a shrinking demand. Furthermore, there is tension on Member States' defense budgets because there are too many suppliers in the European defense industry.<sup>129</sup>

Acknowledging that steps need to be taken, the European Commission is taking "a European approach to the European defense industries, which includes both short and long term measures to increase European competitiveness in these markets."<sup>130</sup>

#### B. RECENT DEVELOPMENTS, REMAINING HURDLES AND THE OVERALL GOAL FOR EUROPE'S NEAR FUTURE

The European Commission will propose rules applicable to the acquisition of defense equipment.<sup>131</sup> Specifically, the European Commission plans to protect certain confidential information, especially that information a Member State feels is a matter of national security.<sup>132</sup>

Consolidating Europe's defense industry will demand setting standards used by Defense Ministries. Moreover, if civil and military industries consolidate, duplication will decrease and economic advantages will be realized.<sup>133</sup>

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<sup>126</sup> *Commission Urges Industry to Restructure, Keep Up with the U.S.*, EUROWATCH, Oct. 31, 1997, available in LEXIS, World Library, Eurwch File.

<sup>127</sup> *See id.*

<sup>128</sup> *See id.*

<sup>129</sup> *See Defense Industry: Embryonic Common Policy*, EUR. REP., Oct. 25, 1997, available in 1997 WL 13047467.

<sup>130</sup> *Id.* (These measures include policies to deal with public defense contracts, export requirements and consolidated customs duties for imports.)

<sup>131</sup> *See id.*

<sup>132</sup> *See id.*

<sup>133</sup> *See id.*

Yet another short term measure needed to combat competition is aligning tariff arrangements for customs.<sup>134</sup> In 1988, the European Commission proposed that the Council temporarily suspend customs duties for certain military equipment, and that the suspension be adopted as a permanent measure.<sup>135</sup> Differing national approaches for tariff arrangements for imports is not acceptable. Thus, Article 28 of the European Community (EC) Treaty is the "only permissible legal basis for granting autonomous suspensions."<sup>136</sup>

The medium term measures to confront competition apply to competition policy, export controls, structural funds, market access, taxation, and institutional matters.<sup>137</sup> For example, the Member States currently use an eight step approach to determine whether to grant a license for a specific export; whereas, a two-step approach involving "exchanges of information on exports of weapons . . . and the creation of a system for eliminating distortions between the various national treatments" should be followed.<sup>138</sup>

As far as taxation among Member States is concerned, the proposals include the "exemption of goods and services for the defence of Member States where the goods and services are to be supplied within the EU."<sup>139</sup> There may also be "exemption of goods and services for supranational collaborative programs for [the] defence of Member States" and harmonization of which goods and services could receive the value-added tax (VAT) rates.<sup>140</sup>

Although the short and medium term measures appear promising, if adopted, some corporations may individually take steps to enhance competition. For example, AlliedSignal and BFGoodrich are rumored to have an eye on Europe<sup>141</sup>. Furthermore, British Aerospace is allying with Lockheed Martin as illustrated by their relationship on a Joint Strike Fighter bid; however, British Aerospace admitted that the priority should be given to European consolidation in order to create a company

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<sup>134</sup> See *id.*

<sup>135</sup> See *id.*

<sup>136</sup> *Id.*

<sup>137</sup> See *id.*

<sup>138</sup> *Id.*

<sup>139</sup> *Id.*

<sup>140</sup> See *id.*

<sup>141</sup> See O'Toole, *supra* note 3.

capable of competing with the American giants.<sup>142</sup> General Electric Corporation, which is not related to the GE in the United States, may also begin to focus on the United States.<sup>143</sup>

Furthermore, US Airways recently placed an order for a maximum of 400 Airbuses. The US Airways order is the largest that "Airbus has ever won and is a significant victory for the European consortium in the U.S. market, which is dominated by Boeing."<sup>144</sup> Airbus, which is owned by Aerospatiale of France, Daimler-Benz Aerospace of Germany, British Aerospace of the United Kingdom and CASA of Spain, had 460 new orders in 1997, compared to 326 in 1996.<sup>145</sup> "Airbus account[ed] for 43% of new aircraft sold in the world since January [1997] and hop[ed] to take 45% of the market over 1997 as a whole, . . . [which] would place the European aircraft manufacturers ahead of its target of 50% of the world market in 2002."<sup>146</sup>

The Airbus consortium, which groups manufacturers of civilian aircraft from Britain, France, Germany, and Spain, "aims to attack the monopoly Boeing has with its 747 aircraft. With the A340-500 and 600 models at the lower end and the [A]3XX (large passenger jet), [Airbus plans] to squeeze Boeing . . . from both sides."<sup>147</sup> "The A3XX large passenger jet will offer the largest passenger capacity, with 480-600 seats per plane."<sup>148</sup> Interested parties in the venture include a Japanese partner and companies such as Alenia of Italy and Sweden's Saab.<sup>149</sup> The jumbo jet "will be faster, quieter, more cost-efficient and able to fly farther than the [B]oeing 747."<sup>150</sup> The A3XX will, however, cost at least \$10 billion per aircraft.<sup>151</sup> Moreover, Airbus is talk-

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<sup>142</sup> See *id.*

<sup>143</sup> See *id.*

<sup>144</sup> Michael Skapinker, *US Airways Confirms Big Airbus Order*, FIN. TIMES (London), Nov. 4, 1997, at 5.

<sup>145</sup> See *DASA FY Sales — 3 (Bischoff Sees Major Decisions on Shaping Industry)*, EXTEL EXAMINER, Jan. 20, 1998, available in LEXIS, Asiapc Library, Xinhua File.

<sup>146</sup> *Airbus Looks to Euro to Confirm Global Presence*, TRANSPORT EUROPE, Oct. 25, 1997, available in LEXIS, Eurcom Library, Eurtrn File (emphasis added).

<sup>147</sup> *DASA's Bischoff — 2 (DASA to Attack Boeing 747 Monopoly)*, EXTEL EXAMINER, Jan. 20, 1998, available in LEXIS, BusFin Library, Extex File [hereinafter *DASA's Bischoff*].

<sup>148</sup> See *id.*

<sup>149</sup> See *id.*

<sup>150</sup> *Airbus Weighing Super Passenger Jet*, XINHUA NEWS AGENCY, Jan. 15, 1998, available in LEXIS, Asiapc Library, Xinhua File.

<sup>151</sup> See *id.*

ing to a Chinese partner and Alenia about developing a new 100-seater aircraft to rival Boeing's 717 aircraft.<sup>152</sup>

Airbus also embraced an order from the U.S. Air Force to paint sixty A10 Thunderbolt aircrafts. While it may not appear to be much, it is the first U.S. defense contract won by the company since the Gulf War.<sup>153</sup>

Airbus must become the core of the entire aviation industry in Europe, including the military aircraft market, if it is to successfully compete against Boeing. In response to Boeing's threatening market power, leaders of Britain, France and Germany proposed, in December 1997, to expand the Airbus consortium, which groups civilian aircraft industries of France, Germany, Britain and Spain, into an "integrated company that would also produce fighter jets, helicopters and missiles."<sup>154</sup> The result would be a civil-defense consortium that could compete with the big American rivals. Once these companies consolidate, the door is open for other European companies to join, specifically Sweden's Saab-Scania AB, Italy's Finmeccanica and Dassault Aviation SA, and Lagardere SCA's Matra division in France.<sup>155</sup> No specific timetable is set for the consolidation efforts.

Italy appears "extremely interested" in proposals for the reorganization of the [E]uropean aerospace and defense electronics industry, and fully approves the reorganization of [A]irbus."<sup>156</sup> The Italian Government is pushing Italian corporations to consolidate, and it is specifically planning for Alenia to join the Airbus consortium.<sup>157</sup>

Even without consolidating civil and defense sectors, Airbus is doing extremely well in its aggressive attack on Boeing-McDonnell Douglas. Airbus won nearly forty percent of the market in 1996, and received an order for thirty-four aircraft (worth £1 billion, or roughly \$1.5 billion) from Belgian flag-carrier Sabena in 1997.<sup>158</sup> At the end of October 1997, Airbus had 425 aircraft

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<sup>152</sup> See DASA's Bischoff, *supra* note 146.

<sup>153</sup> See *id.*

<sup>154</sup> *EU Official Welcomes Call for Aerospace Restructuring*, XINHUA NEWS AGENCY, Dec. 10, 1997, available in LEXIS, Asiapc Library, Xinhua File.

<sup>155</sup> See *WRAP/Airbus-2: No Timetable for Broad-Based Combination*, DOW JONES NEWS SERV., March 27, 1998; Sieff, *supra* note 145, at A16.

<sup>156</sup> *Italy Backs European Aerospace Restructuring*, XINHUA NEWS AGENCY, Dec. 9, 1997, available in LEXIS, Asiapc Library, Xinhua File.

<sup>157</sup> See *id.*

<sup>158</sup> See Mark Milner, *Airbus Order Closes Gap on Boeing*, GUARDIAN (London), Nov. 19, 1997, at 24.

orders compared to Boeing's 469, and it appears Airbus is even closer to its goal of fifty percent of the market.<sup>159</sup>

Europe is feeling a sense of urgency to consolidate because there is already such a disparity between the United States and Europe in "such high-tech fields as lasers and optronic surveillance."<sup>160</sup> But the sense of urgency has lessened somewhat since Washington opposed the Lockheed Martin-Northrop Grumman merger. According to Manfred Bischoff, then Chief Executive Officer of Germany's Daimler-Benz Aerospace S.A. (DASA), "[i]f Europe and the other countries are not prepared to take up the challenge [imposed by American companies, specifically in the high-tech weapons arena,] the United States may be heading towards a singular technological position [of high-tech weapons dominance] that will be permanent."<sup>161</sup>

The unanimous vision, which will begin with the expansion of Airbus, is a unified European Aerospace and Defense Company. Efforts to expand the Airbus consortium, however, have been thwarted by "France's reluctance to give up state control of Aerospatiale and the defense electronics giant Thomson-CSF."<sup>162</sup> Fortunately, however, the French government recently announced a pending merger with Matra, which would make Aerospatiale part of the private sector.<sup>163</sup> Lagardere will be the largest private owner holding thirty to thirty-three percent of the combined group.<sup>164</sup> Although the state will retain less than fifty percent, it will nevertheless be the largest shareholder.<sup>165</sup>

The French decision to privatize Aerospatiale is pivotal. The merger shows that European defense-industry integration is France's priority.<sup>166</sup> Moreover, the Aerospatiale-Matra merger creates, in one move, a group encompassing a variety of businesses including "Europe's largest guided weapons, satellites and helicopter companies, a substantial software engineering

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<sup>159</sup> See *id.*

<sup>160</sup> Martin Sieff, *Ready for Take Off? Europeans Eye Consolidation of Aerospace Firms*, WASH. TIMES, March 2, 1998, at A16, available in 1998 WL 3441213.

<sup>161</sup> *Id.*

<sup>162</sup> *Id.*

<sup>163</sup> Douglas Hamilton, *BAe and Dasa Plan Europe Defence Tie-up: Aviation Shares Take Off on Merger Speculation*, HERALD (United Kingdom), July 25, 1998, at 23, available in 1998 WL 8172454. (Matra is the defense sector of Lagardere, another industry conglomerate.)

<sup>164</sup> See Amy Barrett, *Aerospatiale Will Be Privatized Following Merger*, ASIAN WALL ST. J., July 24, 1998, at 2, available in 1998 WL-WSJA 12982943.

<sup>165</sup> See *id.*

<sup>166</sup> See *id.*

and communications business, plus significant shareholdings in Europe's prime commercial aircraft group, Airbus, [and a] regional aircraft group ATR and combat aircraft company Dassault Aviation."<sup>167</sup> Unfortunately, however, this merger is accompanied by German and British fears that the government in Paris will gain too much power through this privatization."<sup>168</sup>

Consolidation appears to be Europe's ultimate goal, and there are other forms of real progress toward realizing the vision of unity. For example, the Spanish and Italian governments have already begun privatizing their defense and aerospace industries.<sup>169</sup> The privatization of Spain's CASA could be completed by the end of 1999.<sup>170</sup> Moreover, the merger between Italy's Finmeccanica and Britain's General Electric Co., which would merge the companies' missile, naval and radar systems businesses, is viewed as, "a key step in state-owned Finmeccanica's move to privatization."<sup>171</sup> A joint holding company in the Netherlands will manage the operation, and the companies may merge other divisions in the future.<sup>172</sup>

In addition, GEC-Marconi, after recently acquiring Tracor for \$1.4 billion, is interested in American corporations, specifically some units of Northrop Grumman.<sup>173</sup> Northrop Grumman, however, claims that it is not interested in selling its assets.<sup>174</sup> Nevertheless, this is an example of transnational cooperation that may be surfacing.

Interestingly, the United States Government and the European Commission recently approved the \$35 billion merger between Daimler-Benz of Germany and Chrysler, thereby making the German company's aerospace unit forty-seven percent American owned.<sup>175</sup>

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<sup>167</sup> Alexis Rendell, *Attacking MOVES (Aerospataile, Matra Hautes Technologies Merger)*, FLIGHT INT'L, July 28, 1998, available in 1998 WL 11807002.

<sup>168</sup> See *France's European Partners Fear Industrial Domination*, DEF. NEWS, August 3, 1998, at 1, available in 1998 WL 9010101.

<sup>169</sup> See John D. Morrocco & Michael A. Taverna, *Consolidation Plans Hinge on French Role Efforts to Create a Single European Aerospace/Defense Firm Undercut by Paris' Foot-Dragging Over Aerospataile*, AVIATION WK. & SPACE TECH., April 6, 1998, available in 1998 WL 8143258.

<sup>170</sup> See *id.*

<sup>171</sup> *Id.* (The merger should lead to annual revenues of \$1.5 billion. See *id.*)

<sup>172</sup> *Id.* (The companies avionics, guns, and armored vehicle sections could become prime merger targets. See *id.*)

<sup>173</sup> See Vago Muradian, *Defense and Aerospace Stocks Rise as Investors Shop for Bargains*, DEF. DAILY, August 10, 1998, available in 1998 WL 7194615.

<sup>174</sup> See *id.*

<sup>175</sup> See *id.*

Trans-Atlantic alliances are a tradition in the industry in order to share risk, knowledge, and technology between companies. In addition to the cooperation between British Aerospace and Lockheed Martin on the Joint Strike Fighter program, there are multiple examples of such international working cooperations. For example, British Aerospace creates wings and wing parts for Airbus and Boeing — even though both companies are vying for control of the civil aircraft market.<sup>176</sup> Boeing provides “systems for British Aerospace’s Nimrod early warning and reconnaissance aircraft.”<sup>177</sup> Additionally, Boeing jets have Rolls-Royce engines.<sup>178</sup> Similarly, Daimler-Benz Aerospace Co. and Pratt & Whitney (an American engine producer) have a strategic alliance, while Daimler-Benz and Rockwell Corp. build “a tail-less aircraft as a technology demonstrator.”<sup>179</sup>

## VII. MERGERS OF SECOND AND THIRD TIER COMPANIES AND DIVISIONS

Although the U.S. Defense Department opposed the merger between Lockheed Martin and Northrop Grumman, it will support second and third-tier level mergers and acquisitions, provided the combined companies do not threaten efficient competition.<sup>180</sup>

There is a whole different level of subcontractors that must come together if they are going to compete. After all, contractors are realizing that two or three subcontractors are easier to deal with than ten or twelve.<sup>181</sup> Hence, there will be an unprecedented wave of mergers within this level of defense and aerospace producers.

For example, large second-tier companies may make some acquisitions. General Dynamics Corp., the submarine and tank maker out of Falls Church, Virginia, has indicated its interest in expanding.<sup>182</sup> The rocket motor producer Cordant Technolo-

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<sup>176</sup> See James, *supra* note 109, at 11.

<sup>177</sup> *Id.*

<sup>178</sup> See *id.*

<sup>179</sup> *Id.*

<sup>180</sup> See Velocci, *supra* note 99, at 23.

<sup>181</sup> See Benjamine Mark Cole, *Economic Pressures Driving Aerospace Consolidation*, L.A. BUS. J., July 28, 1997, available in 1997 WL 9559198.

<sup>182</sup> See Frederic M. Biddle, *Defense-Industry Consolidation May Not Be Over Yet*, WALL ST. J., July 20, 1998, at B4, available in 1998 WL-WSJ 3502196.



gies Inc., formerly Thiokol Corp., is another company interested in expanding beyond its current line of production.<sup>183</sup>

## VIII. OTHER GLOBAL EFFECTS

### A. ASIA

There is also a slow, but steadily rising Asia-Pacific sector in the competitive aerospace industry. Mitsubishi Heavy Industries, Kawasaki, and Samsung are among the top competitors, in Asia. None have made moves from suppliers to prime contractors, but the long-term nature of the business indicates that such a move will likely occur in the future.<sup>184</sup>

### B. RUSSIA

While Russia's defense industry may not be prominent like Europe's, it is alive. Russia will offer to manufacture medium range Tu-214 airliners for Iran, which will be manufactured by a company in Kazan, the capital of the Tatarstan Republic.<sup>185</sup> Additionally "[o]ut of [the] Russian air companies, the Aeroflot-Russian International Airlines is interested in purchasing ten planes, the Khabarovsk Airline [is interested in] ten[,] and the State Transport Company "Russia" [is interested in] two," at an average price of \$25 million each.<sup>186</sup> Sales are most promising in China, Asia, and in the Middle East; but sales are not likely in Europe due to the competition of Boeing and Airbus.

### C. ISRAEL

Israel has been criticized by the general manager of Elisra, one of Israel's top defense companies, for not promoting and encouraging the consolidation of duplicate defense companies.<sup>187</sup> For example, three Israeli companies operate in the electronic warfare (EW) sector, yet there has been no move to merge the companies.<sup>188</sup> General manager Avner Raz urged the government that "[t]his idea should be treated seriously, consid-

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<sup>183</sup> See *id.*

<sup>184</sup> O'Toole, *supra* note 3.

<sup>185</sup> See *Itar-Tass Economic News Digest of January 19*, TEL. AGENCY OF THE SOVIET UNION, Jan. 19, 1998, available in LEXIS, News Library, Tass File.

<sup>186</sup> *Id.*

<sup>187</sup> See *Ministry Criticized for Not Doing Enough to Help Defense Industries*, BBC SUMMARY OF WORLD BROADCASTS, Jan. 13, 1998, available in LEXIS, Aust Library, Bbcswb File.

<sup>188</sup> See *id.*

ering that the worldwide EW market is [worth] \$5 billion dollars annually."<sup>189</sup> The Israeli aerospace sector should not be overlooked as a competitor because Elisra outbid Luton of the United States for a contract to supply \$40 million of EW systems for naval planes in Australia.<sup>190</sup> It also sold \$15 million worth of systems to Germany and will be supplying passive early warning systems for Israel's Black Hawk and Yasur helicopters.<sup>191</sup>

#### D. CHINA

Although the Chinese civil aircraft market is controlled by Boeing-McDonnell Douglas, Chinese officials have stated that they want to increase Airbus's current market share of fifteen percent in order to bring Airbus closer to Boeing's market share level.<sup>192</sup>

Interestingly, Airbus has a sector in China called Airbus Industry China, and because the Asia-Pacific region has pulled in one quarter of Airbus's total sales, this region proves to be an integral market for Airbus.<sup>193</sup> Airbus acknowledges that there is an enormous potential for an increase in China's market.

#### E. TAIWAN

Taiwan began focusing on the aerospace industry over the past two decades so that it could improve its technology and industrial capabilities in order to better compete in the world market.<sup>194</sup> One hundred and seventy public and private organizations make up Taiwan's aerospace industry.<sup>195</sup> It employs roughly 11,500 personnel and produces some \$400 million in aerospace related manufacturing.<sup>196</sup> By 2000, Taiwan wants to increase production to \$1.38 billion and employment to 14,500.<sup>197</sup>

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<sup>189</sup> *Id.*

<sup>190</sup> *See id.*

<sup>191</sup> *See id.*

<sup>192</sup> *See Project News Airbus Sets Goal*, CHINA ECON. REV., Jan. 23, 1998, available in LEXIS, World Library, Curnws File.

<sup>193</sup> *See Fauziah Ismail, Airbus Industry Looks to China*, NEW STRAITS TIMES (Malaysia), Nov. 18, 1997, at 1, available in LEXIS, News Library, Curnws File.

<sup>194</sup> *See Taiwan Commercial Aerospace Industry Overview*, INT'L MKT. INSIGHT REP., Aug. 13, 1997, available in LEXIS, World Library, Intmkt File [hereinafter *Taiwan*].

<sup>195</sup> *See id.*

<sup>196</sup> *See id.*

<sup>197</sup> *See id.*

Taiwanese officials have furthermore claimed that the aerospace industry is "one of the ten industries of vital importance to Taiwan's economic future."<sup>198</sup> In fact, an agenda was set in 1995 to make Taiwan an "Asia-Pacific Aircraft Repair and Maintenance Center' within the next five years."<sup>199</sup>

Currently, France and the United States supply 90.2% of Taiwan's total import value, and the aggregate value of imported aircraft repair parts is \$90 million.<sup>200</sup> It is unquestionable that Taiwan wants to develop its own industry for aircraft parts, but only a handful of Taiwan's companies can satisfy Federal Aviation Administration (FAA) standards.<sup>201</sup>

Imports will remain important for Taiwan for the near future, and competition from other countries should increase as illustrated by Airbus selling aircraft to Taiwan. But, American suppliers will probably continue to dominate the market.<sup>202</sup>

Taiwanese officials are encouraging domestic firms to cooperate and work with foreign firms in order to build a viable aerospace industry.<sup>203</sup> Taiwanese corporations are slowly beginning to compete with such cooperative joint venture programs. For example, Lockheed Martin, in 1996, formed an \$87 million co-operation through which it will transfer technologies and computer software in an effort to help bolster Taiwan's aviation maintenance industry.<sup>204</sup> Moreover, Taiwan will manufacture fifty percent of rudders for Dassault Aviation's Falcon line of aircraft.<sup>205</sup>

Basically, Taiwan has four prominent organizations that provide for its aerospace research and development. Two of the four (the Committee for Aviation and Space Industry Development (CASID) and the Center for Aviation and Space Technology (CAST)) actively promote the industry and its potential.<sup>206</sup> Currently, Taiwan's aerospace industry is focusing on developing, manufacturing, assembling and selling regional aircraft.<sup>207</sup>

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<sup>198</sup> Wendy Tien, *Taiwan—Aircraft Parts for Repair and Maintenance*, NAT'L TRADE DATA BANK MKT. REP., May 7, 1996, available in LEXIS, Asiapc Library, Mktrpt File.

<sup>199</sup> *Id.*

<sup>200</sup> *See id.*

<sup>201</sup> *See id.*

<sup>202</sup> *See id.*

<sup>203</sup> *See id.*

<sup>204</sup> *See Taiwan, supra* note 190.

<sup>205</sup> *See id.*

<sup>206</sup> *See id.*

<sup>207</sup> *See Tien, supra* note 194.

## F. AUSTRALIA

Australia has very few aircraft manufacturers and as a result, must import almost all aircraft and parts.<sup>208</sup> Interestingly, the total Australian aerospace industry employs only 12,000 people and has revenues of \$1.5 billion — compared to \$85 billion in the United States and \$47 billion in the European Economic Community.<sup>209</sup> The Australian aerospace industry “is becoming more trade oriented with manufactured exports in excess of \$350 million,” and an additional \$350 million in re-exports.<sup>210</sup> The total revenues for aircraft maintenance and repair in Australia is roughly \$400 million.<sup>211</sup>

Australia, however, is a great opportunity for American suppliers of aircraft and parts. The United States leads in aircraft, parts, and ground support equipment sales, and Australian suppliers can anticipate steady growth.<sup>212</sup> Moreover, “[t]here is a strong preference for U.S. produced equipment in all areas of aviation and aerospace in Australia, both in defense and civil markets.”<sup>213</sup> Further, Kaman Aerospace, a smaller U.S. company, will provide the Australian Navy with the SH2-G helicopter, which is an encouraging sign that other contenders can enter the competitive market.<sup>214</sup>

The Australian Government has established defense procurement policies that identify the aerospace industry as a specific industry to be developed.<sup>215</sup> Boeing, as a result of acquiring Rockwell, recently formed Boeing-Australia, which is its first operation based outside the United States.<sup>216</sup> Other U.S. companies have also created a stronger presence in Australia in an effort to profit from already planned military aircraft purchases.<sup>217</sup>

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<sup>208</sup> See Phil Keeling, *Australia — Aircraft and Parts*, NAT'L TRADE DATA BANK MKT. REP., Apr. 1, 1997, available in LEXIS, Aust Library, Mktprt File.

<sup>209</sup> See *id.*

<sup>210</sup> *Id.*

<sup>211</sup> See *id.*

<sup>212</sup> See *id.*

<sup>213</sup> *Id.*

<sup>214</sup> See *id.*

<sup>215</sup> See *id.*

<sup>216</sup> See *id.*

<sup>217</sup> See *id.*

## G. TURKEY

Out of the North Atlantic Treaty Organization (NATO) countries, Turkey has the second largest army. Nevertheless, it must import most of its advanced weapons from the United States and other Western countries.<sup>218</sup> Currently several companies are competing for a \$3 billion contract to build 145 combat helicopters for Turkey.<sup>219</sup> Companies from seven countries have expressed an interest in the contract, including Boeing-McDonnell Douglas and Bell Helicopter Textron (the AH-1 Cobra maker).<sup>220</sup>

## IX. CONCLUSION

The big three mergers in the U.S. defense industry have sent a world-wide message to corporations in the aerospace and defense industries. If existing corporations want to survive in an intensely fierce market, they must act now or Boeing-McDonnell Douglas, Lockheed Martin and Raytheon-Hughes will continue to dominate the civil and defense industries.

The European Airbus consortium is rising to the challenge and aggressively pursuing half of the aircraft market share. The European Union also acknowledges the threat of competition and is pulling its Member States together to attack the American giants. The new millennium presents a challenge in that it will make or break the European Union's hold on the aerospace market.

The United States and Europe are undoubtedly the predominate contenders in the aerospace and defense industries; however, corporations in other countries will attempt to survive locally through joint ventures and cooperation with the big players.

Nevertheless, the mergers and acquisitions of the 1990s have changed the aerospace and defense industries forever and have sparked a new round of consolidation to move this industry into the new millennium.

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<sup>218</sup> See *U.S. Firms to Bid for Producing Choppers for Turkey*, XINHUA NEWS AGENCY, Jan. 5, 1998, available in LEXIS, Asiapc Library, Xinhua File.

<sup>219</sup> See *id.*

<sup>220</sup> See *id.*